

CLAIMS

1. A motor having an eccentric portion including a rotational shaft which has an axis and supports an armature and a commutator thereon, and an eccentric portion which is eccentrically configured with respect to the axis on the rotational shaft, the eccentric portion constituting an output portion for driving an external equipment, wherein

the eccentric portion includes a shaft portion of the rotational shaft which has an axis equal to the axis, and an eccentric ball bearing which is joined to the rotational shaft and has another axis which is eccentric with respect to the axis of the rotational shaft and the shaft portion.

2. A motor according to claim 1, wherein the eccentric ball bearing is constituted of an inner race which is eccentric with respect to the axis of the rotational shaft and the shaft portion, an outer race which is positioned outside the inner race and has an axis equal to the axis of the rotational shaft and the shaft portion, and balls which are supported between the outer race and the inner race.

3. A motor according to claim 1 or 2, wherein the eccentric ball bearing is jointed to a portion of the rotational shaft in a close fit state.

4. A motor according to claim 1 or 2, wherein the armature, the commutator and the eccentric portion are arranged on the

axis in the order.

5. A motor according to claim 1 or 2, wherein the motor has an output of 150W or less.

6. A pump device including a rotational shaft which has an axis and supports an armature and a commutator thereon, an eccentric portion which is eccentrically configured with respect to the axis on the rotational shaft, and a plunger pump which is brought into contact with the eccentric portion and is driven by an eccentric motion of the eccentric portion, wherein

the eccentric portion includes a shaft portion of the rotational shaft which has an axis equal to the axis, and an eccentric ball bearing which is joined to the shaft portion of the rotational shaft and has another axis which is eccentric with respect to the axis of the rotational shaft and the shaft portion.

7. A pump device according to claim 6, wherein the eccentric ball bearing is constituted of an inner lace which is eccentric with respect to the axis of the rotational shaft and the shaft portion, an outer lace which is positioned outside the inner lace and has an axis equal to the axis of the rotational shaft and the shaft portion, and balls which are supported between the outer lace and the inner lace.

8. A pump device according to claim 6 or 7, wherein the eccentric ball bearing is jointed to a portion of the rotational

shaft in a close fit state.